



## INTRODUCTION

- Merkel cell carcinoma (MCC) is a rare, aggressive carcinoma of cutaneous neuroendocrine cells, associated with a high risk of local recurrence and distant metastases<sup>1</sup>
- The incidence of MCC has been rising steadily across recent decades, with reported rates in Europe ranging from 0.13 to 0.65 cases per 100,000 annually. The disease predominantly affects older adults, with a marked predilection for white population and males<sup>2</sup>
- Despite advancements in treatments like immunotherapy, MCC remains associated with poor prognosis, underscoring the need to understand region-specific epidemiological trends for optimizing treatment strategies and improving patient outcomes

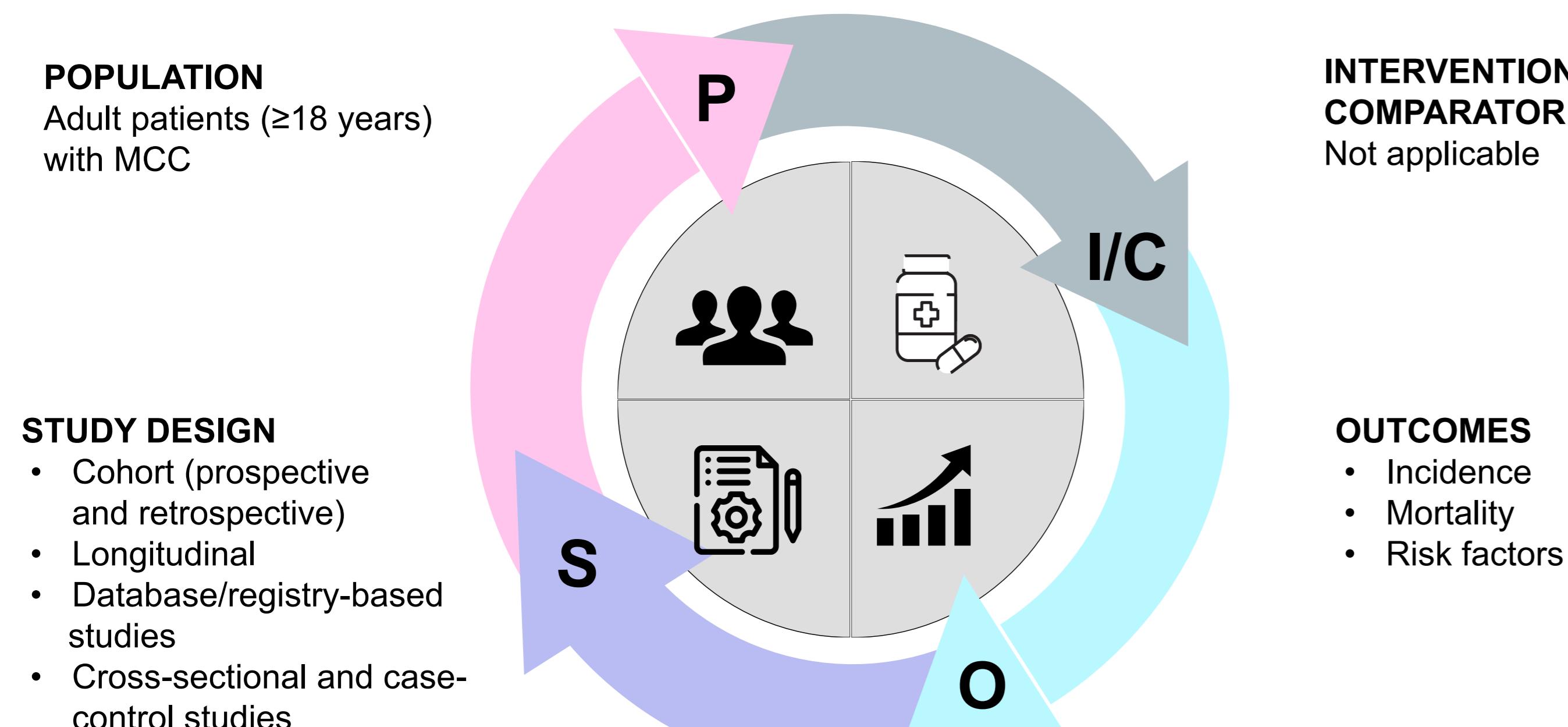
## OBJECTIVE

- The current systematic literature review (SLR) aims to understand the epidemiology of MCC across Europe and UK

## METHODS

- This review followed the standard methodology for conducting an SLR as per guidelines provided by the National Institute for Health and Care Excellence (NICE)<sup>3</sup>
- Electronic databases such as EMBASE® and MEDLINE® were searched using the combination of relevant keywords for epidemiology and MCC. English-language articles focusing on MCC epidemiology specific to Europe and the UK, and published within the last 10 years (2015-2025) were included
- The SLR encompassed a comprehensive range of study designs, including prospective and retrospective observational studies, cross-sectional analysis, and case-control studies, to gather epidemiological data pertaining to MCC
- A standard two-independent review and quality control process was followed during data collection. The prespecified eligibility criteria is presented in Figure 1

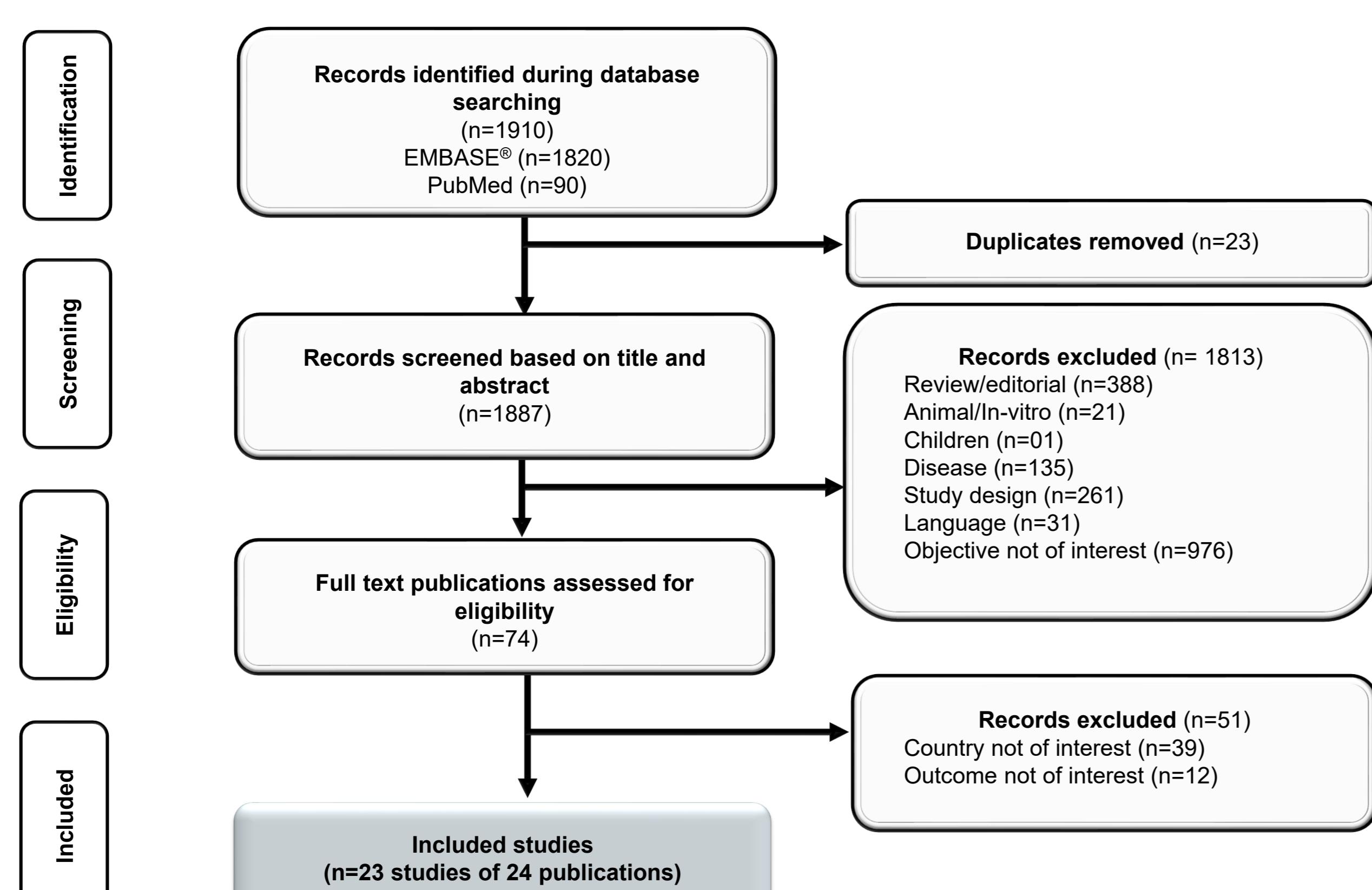
Figure 1: Prespecified PICOS eligibility criteria for selection of evidence



## RESULTS

- A total of 23 studies across Europe and the UK were included (France=2; Germany=2; Italy=2; Spain=3; UK=7; Global=7) covering incidence (n=23), mortality rates (n=3), and risk factors (n=3) in MCC patients (Figure 2)

Figure 2: PRISMA diagram for the screening process



## CONCLUSIONS

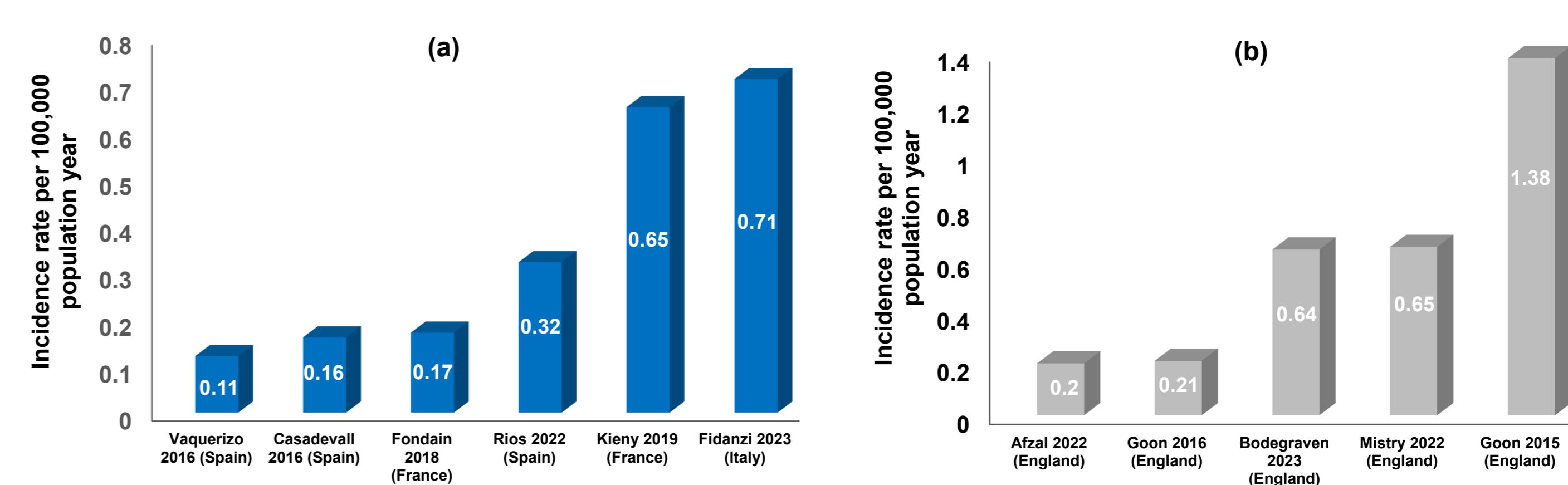
- The incidence of MCC shows a clear and rising trend across Europe and the UK over recent decades, with notable geographic and gender-based variations reflecting its growing epidemiological significance
- These findings underscore the growing burden of MCC, the need for enhanced awareness, and the importance of early detection to inform healthcare planning and targeted interventions

### References

1. Mistry, et al. *British Journal of Dermatology*. 2023; 188 (2):228-236; 2. Siqueira, et al. *Anais Brasileiros de Dermatologia*. 2023; 98(3):277-286 3. Moher D, et al., *Systematic Reviews*; 4(1)
4. Stang, et al. *Cancers*. 2024; 16: 1-11; 5. Bodegraven, et al. *British Journal of Dermatology*. 2023; 188: 777-784; 6. Silling, et al. *Cancers*. 2024; 14: 2-18

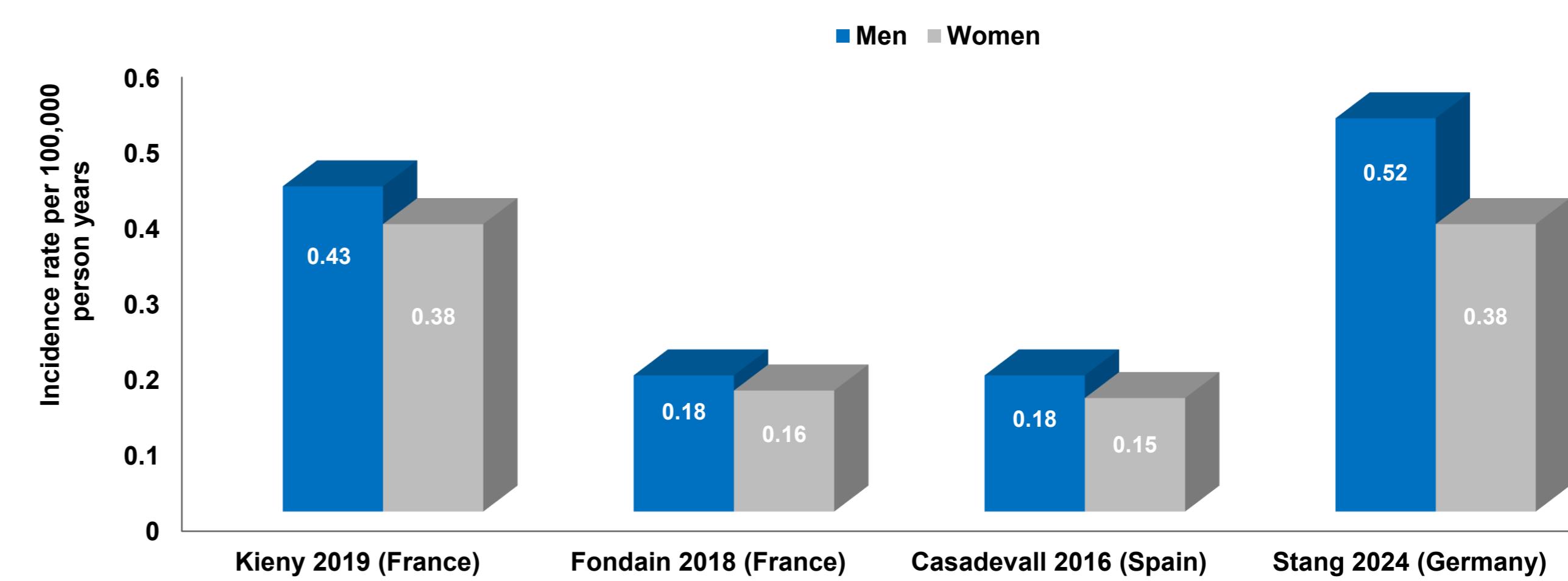
- Globally, incidence rates (IR) of MCC have increased with estimated annual percentage changes of 2.0-21.0% in men and 1.6-27.2% in women, with modest rate differences between 1995 and 2007 (men: 0.8-2.2; women: 0.2-1.7 per 100,000 person-years)
- The age and gender-adjusted IR for MCC patients across Europe ranged from 0.11 cases per 100,000 person-years to 0.32 in Spain, whereas France demonstrated a four-fold increase between 1985-2013, reaching a global-standardized IR of 0.17 (Figure 3a). However, across the UK, the IR ranged from 0.1-0.2 in England to 1.38 cases per 100,000 person-years (Figure 3b)

Figure 3: Incidence of MCC (a) Europe (b) UK



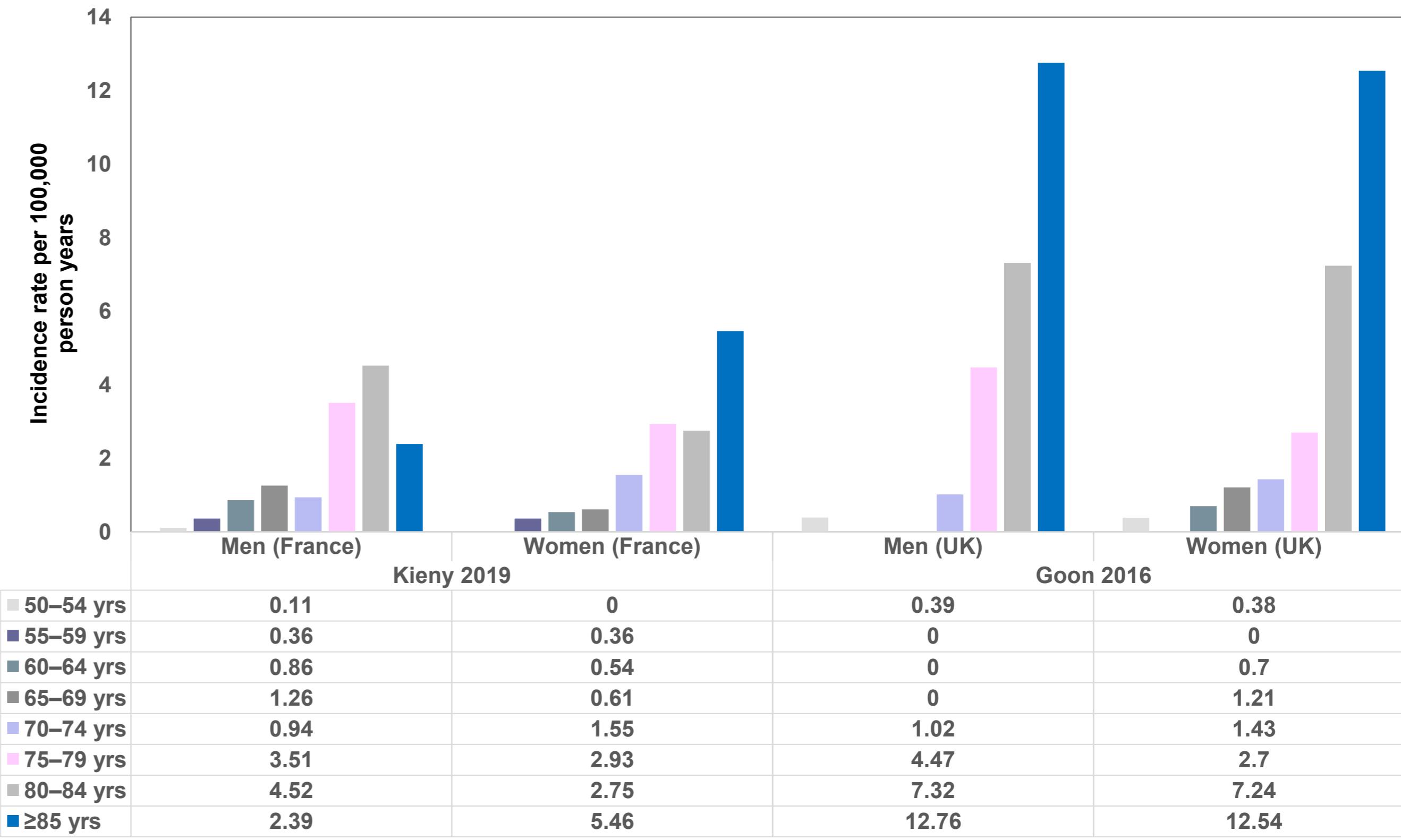
- Across Europe, IR were generally higher among males (0.18-0.52 vs 0.15-0.38) (Figure 4). In contrast, within the UK, females showed a slightly higher IR per 100,000 persons-years (0.24) compared to males (0.19)

Figure 4: Gender-specific incidence across Europe



- The incidence of MCC rises steeply with age, with highest rates seen in individuals aged ≥85 years. Rates were much higher in the UK as compared to France, with men showing slightly higher incidence than women at advanced ages (Figure 5)

Figure 5: Age and gender-specific incidence of MCC across Europe and UK



- A marked rise in MCC diagnosis has been observed in the past 5 years, reaching a crude IR from 0.28 (2001-2005) to 1.15 (2006-2021) per 100,000 inhabitants, almost twice the earlier reported figures in Italy. The crude mortality rate during 1995-2006 was 0.04 per 100,000 population
- The disease mainly affects older patients (>75 yrs; n=3), fair-skinned, immunosuppressed patients, with higher incidence in whites (n=3), men (n=5), transplant recipients (23.8-fold risk), and AIDS patients
- Mortality rises with age (Hazard ratio; HR 1.02), immunosuppression (HR 2.8), advanced stage (HR 8.24), and tumors on low-UV sites (HR 1.71), highlighting the need for early diagnosis and treatment<sup>4,5,6</sup>

## LIMITATIONS

- No studies were identified that reported prevalence data, limiting the ability to estimate the overall burden of disease in the population
- Potential under-reporting of MCC cases in cancer registries may affect the accuracy of incidence estimates